

REMARKS

Claims 1, 2, 27-40, 71-73, 80 and 81 are pending in the application. Claims 1, 2, 71-73, 80 and 81 have been deemed allowable by the Examiner. Claims 27 and 33 stand rejected under 35 U.S.C. § 112, second paragraph. Claims 28-32 and 34-40 are objected to as being dependent upon a rejected base claim.

Applicants respectfully traverse the rejection of the claims. Claim 27 has been cancelled. Claims originally depending from Claim 27 have been amended to either directly or indirectly claim dependency to Claim 1.

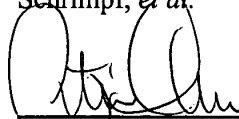
Claim 33 has been amended to clarify an inadvertent typographical error.

Applicants reserve the right to file divisional applications on any non-pending or non-elected subject matter.

The Examiner is cordially invited to contact the undersigned by telephone at the phone number provided below to further facilitate the prosecution of the application, if necessary.

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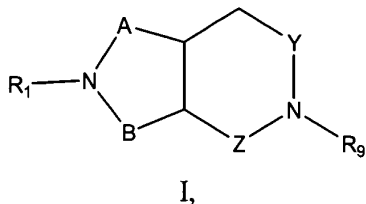
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CLAIM AMENDMENTS

Claim 1. (Previously Presented) A compound of formula I



or pharmaceutically acceptable salts thereof, wherein

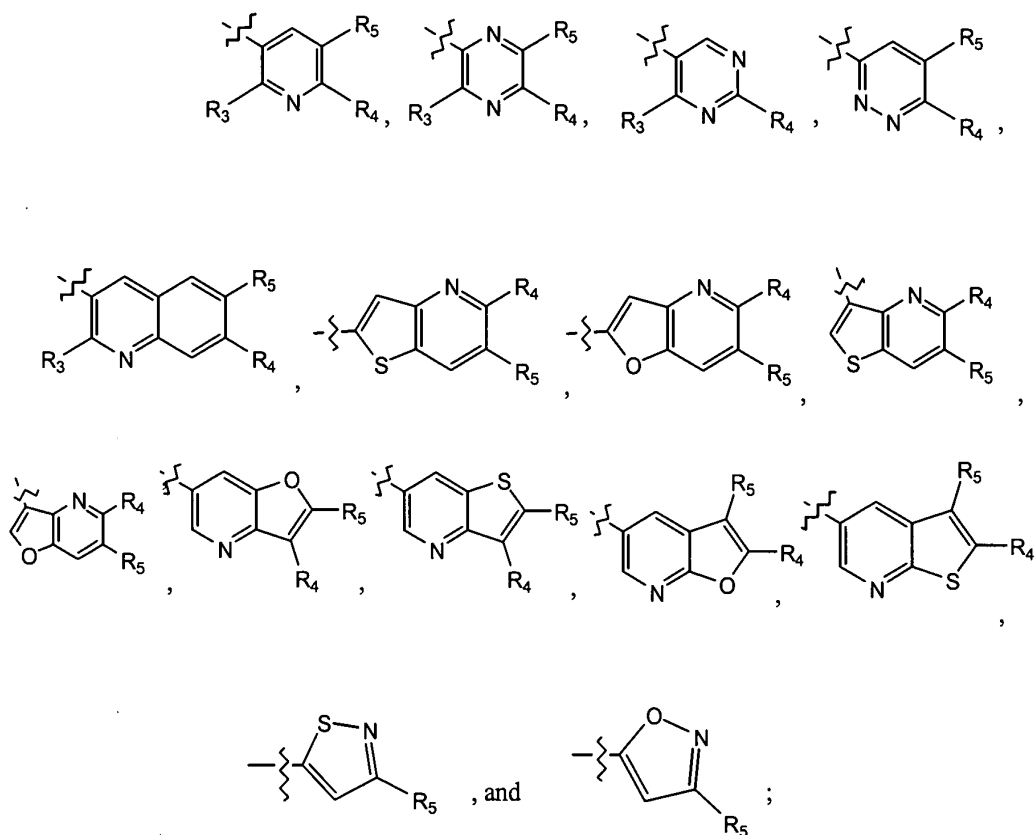
A is CH₂;

B is CH₂;

Y is selected from the group consisting of a covalent bond, CH₂, and CH₂CH₂;

Z is selected from the group consisting of a covalent bond, CH₂, and CH₂CH₂, provided that when Y is CH₂CH₂, then Z is a covalent bond and further provided that when Z is CH₂CH₂, then Y is a covalent bond;

R₁ is selected from the group consisting of



R₃ is selected from the group consisting of hydrogen, alkyl, and halogen;

R₄ is selected from the group consisting of hydrogen, alkoxy, alkyl, amino, halogen, and nitro;

R₅ is selected from the group consisting of hydrogen, alkenyl, alkoxy, alkoxyalkoxy, alkoxyalkyl, alkoxyalkenyl, alkoxyalkynyl, alkyl, alkylalkoxy, alkylalkoxyalkoxy, alkylthio, alkynyl, amino, aminoalkyl, aminocarbonyl, aminocarbonylalkyl, aminosulfonyl, carboxy, carboxyalkyl, cyano, cyanoalkyl, formyl, formylalkyl, haloalkoxy, haloalkyl, halogen, hydroxy, hydroxyalkyl, mercapto, mercaptoalkyl, nitro, 5-tetrazolyl, -NR₆S(O)₂R₇, -C(NR₆)NR₇R₈, -CH₂C(NR₆)NR₇R₈,

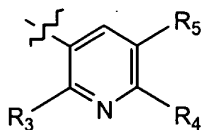
-C(NOR₆)R₇, -C(NCN)R₆, -C(NNR₆R₇)R₈, -S(O)₂OR₆, and -S(O)₂R₆;

R₆, R₇, and R₈ are independently selected from the group consisting of hydrogen and alkyl; and

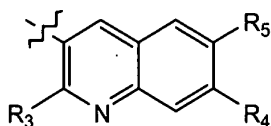
R₉ is selected from the group consisting of hydrogen, alkoxyalkenyl, alkyl, amino, aminoalkyl, aminocarbonylalkyl, benzyloxyalkenyl, cyanoalkyl, dihydro-3-pyridinylalkenyl, hydroxy, hydroxyalkyl, and phenoxyalkenyl.

Claim 2. (Original) A compound according to claim 1 wherein

R₁ is selected from the group consisting of



and

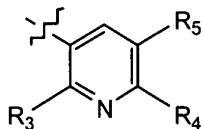


Claims 3-26 have been cancelled.

Claim 27 has been cancelled.

Claim 28. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is a covalent bond and Z is a covalent bond.

Claim 29. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein
Y is a covalent bond;
Z is a covalent bond; and
R₁ is



Claim 30. (Previously Presented) A compound according to claim 29 selected from the group consisting of

(cis)-3-(3-pyridinyl)-3,6-diazabicyclo[3.2.0]heptane;

(cis)-3-(6-chloro-3-pyridinyl)-3,6-diazabicyclo[3.2.0]heptane;

5-[(1R,5R)-3,6-diazabicyclo[3.2.0]hept-3-yl]nicotinonitrile;

(1R,5R)-3-(6-chloro-3-pyridinyl)-3,6-diazabicyclo[3.2.0]heptane; and

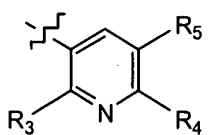
(cis)-3-(5,6-dichloro-3-pyridinyl)-3,6-diazabicyclo[3.2.0]heptane.

Claim 31. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is CH₂ and Z is a covalent bond.

Claim 32. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is CH₂;

Z is a covalent bond; and

R₁ is



Claim 33. (Currently Amended) A compound according to claim 32 selected from the group consisting of

~~(cis)-5-(6-chloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;~~

(cis)-5-(6-chloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aR,6aR)-5-(6-chloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aS,6aS)-5-(6-chloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aR,6aR)-5-(5,6-dichloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aS,6aS)-5-(5,6-dichloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aS,6aS)-5-(6-chloro-5-methyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aR,6aR)-5-(6-chloro-5-methyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aR,6aR)-5-(3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aR,6aR)-5-(5-methoxy-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aS,6aS)-5-(3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aS,6aS)-5-(5-bromo-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aS,6aS)-5-(5-methoxy-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

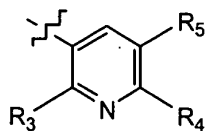
(3aR,6aR)-5-(5-ethynyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;

(3aR,6aR)-5-(5-bromo-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
5-((3aR,6aR)-hexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)nicotinonitrile;
(3aR,6aR)-5-(6-bromo-5-methoxy-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
5-((3aR,6aR)-hexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)-2-bromonicotinonitrile;
(3aR,6aR)-5-(5-vinyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
(3aR,6aR)-5-(5-methyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
(3aR,6aR)-5-(6-bromo-5-chloro-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
(3aR,6aR)-5-(6-bromo-5-methyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
(3aR,6aR)-5-(5-ethyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
[5-((3aR,6aR)-hexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)-2-bromo-3-pyridinyl]methanol;
(3aR,6aR)-5-(6-bromo-5-vinyl-3-pyridinyl)octahydropyrrolo[3,4-b]pyrrole;
[5-((3aR,6aR)-hexahydropyrrolo[3,4-b]pyrrol-5(1H)-yl)-2-bromo-3-pyridinyl]acetonitrile; and
(3aR,6aR)-5-[6-bromo-5-(methoxymethyl)-3-pyridinyl]octahydropyrrolo[3,4-b]pyrrole.

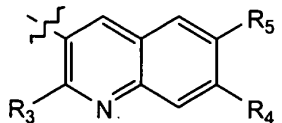
Claim 34. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is a covalent bond and Z is CH₂.

Claim 35. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is a covalent bond;
Z is CH₂; and

R₁ is



and



Claim 36. (Original) A compound according to claim 35 selected from the group consisting of

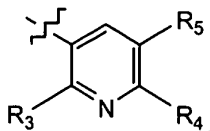
(cis)-2-(3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-methyl-5-(3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(6-chloro-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(6-chloro-3-pyridinyl)-5-methyloctahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(3-quinolinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(5-hydroxy-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(5-methoxy-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(5-ethoxy-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(5-propoxy-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(6-chloro-5-methoxy-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole;
(cis)-2-(6-chloro-5-methyl-3-pyridinyl)octahydropyrrolo[3,4-c]pyrrole; and
(cis)-2-[5-(2,2,2-trifluoroethoxy)-3-pyridinyl]octahydropyrrolo[3,4-c]pyrrole.

Claim 37. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is CH₂CH₂ and Z is a covalent bond.

Claim 38. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is CH₂CH₂;

Z is a covalent bond; and

R₁ is



Claim 39. (Original) A compound according to claim 38 selected from the group consisting of

(cis)-6-(6-chloro-3-pyridinyl)octahydro-1H-pyrrolo[3,4-b]pyridine and

(cis)-6-(3-pyridinyl)octahydro-1H-pyrrolo[3,4-b]pyridine.

Claim 40. (Currently Amended) A compound according to ~~claim 27~~ claim 1 wherein Y is CH₂ and Z is CH₂.

Claims 41-70 have been cancelled.

Claim 71. (Previously Presented) A composition comprising a compound of Claim 1 in combination with a pharmaceutically acceptable carrier.

Claim 72. (Previously Presented) A method for selectively controlling neurotransmitter release in a mammal comprising administering a therapeutically effective amount of a compound of Claim 1 to a mammal in need of treatment for a condition selected from the group consisting of Alzheimer's disease, Parkinson's disease, attention deficit hyperactivity disorder, depression, pain, nicotinic withdrawal syndrome, Tourette's syndrome, and schizophrenia.

Claim 73. (Previously Presented) A method of treating a disorder comprising administering a therapeutically effective amount of a compound of Claim 1 to a host mammal in need of treatment for a condition selected from the group consisting of Alzheimer's disease, Parkinson's disease, attention deficit hyperactivity disorder, depression, pain, nicotinic withdrawal syndrome, Tourette's syndrome, and schizophrenia.

Claims 74-79 have been cancelled.

Claim 80. (Previously Presented) A composition comprising administering (cis)-3-(5,6-dichloro-3-pyridinyl)-3,6-diazabicyclo[3.2.0]heptane in combination with a pharmaceutically acceptable carrier.

Claim 81. (Previously Presented) A method for treating a disorder comprising administering a therapeutically effective amount of (cis)-3-(5,6-dichloro-3-pyridinyl)-3,6-diazabicyclo[3.2.0]heptane to a mammal in need of treatment for a condition selected from the group consisting of Alzheimer's disease, Parkinson's disease, attention deficit hyperactivity disorder, depression, pain, nicotinic withdrawal syndrome, Tourette's syndrome, and schizophrenia.